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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, THU V

ART UNIT PAPER NUMBER

3661

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/748,935

Applicant(s)

IMAI ET AL.

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-3, 5, 9-22, 29, 34-35, 37-40, 45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-22 and 37 is/are allowed.
- 6) ☐ Claim(s) 2,3,5,29,34,35,38-40 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The amendment filed on May 13, 2003 has been considered. By this amendment, claims 29, 38, and 45 have been amended, and claims 2-3, 5, 9-22, 29, 34-35, 37-40, and 45 are now pending in the application.

Specification

1. The disclosure is objected to because of the following informalities:
 - a. In the specification page 9, lines 3-15, several details such as the coordinates wx, wy, etc should be illustrated in the drawings.
 - b. In the specification page 12, line 12, the "end point of the axis AX1" should be illustrated in the drawings. What is the end point AX1?
 - c. In the specification page 21, lines 4-5, the "point R" should be illustrated in the drawings. What is point R?

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

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to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 5, 29, 38-40 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura (U.S Patent No. 5,615,318).

As per claim 29, and 45, Matsuura teaches a computer-implemented method of generating three-dimensional form data the method comprises the steps of: obtaining an electronic data of a three dimensional form model (col.7, lines 42-50); generating a plurality of lines along a surface of the model (col.12, lines 7-20, lines 43-50; col.14, lines 24-33); modifying the lines in response to a user instruction that includes an adding or a movement of a line so that the plurality of lines still correspond to contour of the model (col.20, lines 3-7, lines 61-67; col.20, lines 18-23).

Matsuura does not explicitly disclose that the generated lines correspond exactly to contours of the model after the modification, and that before and after the modification, any one of the lines does not cross with the remaining lines. However, Matsuura teaches that the corresponding level of the lines to the contours of the model is determined from the expansion factor (col.8, lines 47-59; col.11, lines 34-47); that the user is allowed to select adding lines to the meshes (col.12, lines 11-13, lines 1-2, lines 7-8), and that the user is allowed to add internal lines, and sewing lines to the existing model (col.19, lines 63-67; col.20, lines 1-7, lines 18-47) in which the sewing lines (the disconnected line in fig.18) do not cross the lines after the modification, further, since Matsuura teaches allowing the user to freely add or delete the seam lines and the internal lines (col.20, lines 1-7, lines 61-67), Matsuura obviously include the

capability of generating added seams lines and internal lines which do not cross the existing lines when the user chooses the lines without crossing the existing lines. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the expansion factor of Matsuura to zero in order to obtain the generated lines that corresponds exactly to the contours of the model, since adjusting a value to obtain appropriate relative position of the lines to the contour of the model requires only routine skill in the art. It would also have been obvious to a person of ordinary skill in the art at the time the invention was made to add or delete lines which does not cross any remaining lines by specifying appropriate coordinate for the added or deleted lines, since selecting the position of the added pattern line according to the cloth designer's preference requires only routine skill in the art.

As per claim 2, 5, refer to claim 29 above. Matsuura does not explicitly teach that the lines comprises parametric or spline curve groups. However, expressing the lines in parametric or spline curves would have been well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to express the lines of Matsuura in parametric or spline curves format in order to facilitate manipulating the lines by changing the parameter of the expression of the lines.

As per claim 38-40, Matsuura teaches a method for processing electronic data. The method comprises the steps of: receiving a first electronic data of a three dimensional model of an object that has been acquired from the object (col.7, lines 43-47); generating a second set of

data that represents the first set of uncrossed lines (fig. 17; col.8, lines 16-25; col.12, lines 7-8); generating from the second set of data a third electronic set of data that represent a second set of uncrossed lines, the second portion includes at least one portion that is different from any one of the first portions (at least a line of the second set of uncrossed line is located at a position that is different than the lines of the first set of uncrossed lines) (fig.19 (in comparison with fig.17); col.12, lines 11-13). Matsuura does not explicitly teach that the capacity of the second and third electronic data is less than the capacity of the first electronic data. However, since Matsuura teaches that the first data are obtained from the image taken from a camera which is well known to have dense pixels, the second data are just some characteristic points of the object, the third data are just some more added characteristic data onto the image of the first data, Matsuura obviously teaches the capacity of the second and third data is less than the capacity of the first data. Further, refer to discussion in claim 29 above for explanation on the second and third data corresponding exactly to the surface of the model and the uncrossed added lines.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura (U.S Patent No. 5,615,318) in view of Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 3, Letcher teaches defining control points and moving control points along the surface of a model (col.16, lines 29-40). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the control point taught by Letcher to move the lines along the surface of the object of Matsuura. The motivation for this would have

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been to provide the user a convenient graphical user interface so that the user can adjust the lines of Matsuura to obtain a desired amount of lines he needs.

5. Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura (U.S Patent No. 5,615,318) in view of Sato et al (U.S Patent No. 5,754,680) (Sato '680).

As per claim 34, Matsuura does not explicitly teach generating the sum data representing the modified generated lines such that the quantity of the summary data is smaller than the quantity of the three-dimensional form data. However, Matsuura teaches the capability to obtain three dimensional form data (col.7, lines 43-48) and the capability of deleting the generated lines (col.20, lines 3-7), and Sato '680 teaches generating a sum of data for representing modified lines with summary data that is smaller than the quantity of the obtained three dimensional form data (col.8, lines 53-61). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the generated lines of Matsuura with data and represent lines with the summary data that is smaller than the three dimensional form data as taught by Sato in order to simplify the design and to reduce the number of data to increase data processing speed.

As per claim 35, Matsuura teaches obtaining the electronic three dimensional form data from a camera (col.7, lines 43-48). Matsuura does not explicitly disclose a generator for generating the electronic data. However, Sato '680 discloses a generator that provides electronic data representing a three dimensional model (col.5, lines 16-19). It would have been obvious to

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a person of ordinary skill in the art at the time the invention was made to incorporate the generator of Sato to the shape input unit of Matsuura in order to convert the analog data from the camera of Matsuura to digital data that is compatible with the microprocessor of Matsuura.

Allowable Subject Matter

6. Claims 9-22, and 37 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Prior art of record does not disclose a method for generating three dimensional form data in which a three dimensional form data representing a three dimensional form model is prepared; a plurality of two-dimensional horizontal closed curves encircling the three dimensional form model but having a space to the three dimensional form model, and a plurality of vertical lines intersecting the closed curves to the three dimensional model are projected around the model; the group of curves can be modified with adding, deleting, or moving operation.

Response to Arguments

8. Remarks:

Applicant has not addressed the objections to the specification on page 9, 12 and 21 set forth in the office action paper No. 35, 38 and 42 (on July 5, 2002, January 13, 2003, and July 14, 2003). The objections are repeated herein in this office action.

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9. Applicant's arguments filed on May 13, 2003 have been fully considered but they are not persuasive.

In response to applicant's argument on page 11 section I, page 12, the explanation that since the internal lines are generated according to the coordinate specified by the user (col.20, lines 1-28), the internal lines can be generated uncrossing of other lines when the user specified the coordinates that is not overlapping the existing lines still shows that the teaching of Matsuura encompasses the claimed "any one of the plurality of lines do not cross with any one of the remaining ones of the plurality of lines". Furthermore, Matsuura discloses allowing the user to add the designed seam lines at any location on the model (col.20, lines 3-8), one of the example designed seam line is illustrated in fig.18 (the dotted line), the designed seam line in fig.18 clearly does not crossed any vertical group of lines. Therefore, adding the internal lines or the designed seam lines such that they are not cross any other lines is just a matter of choices from the user. It is not actually the necessary modification as asserted by the applicant in page 12, last paragraph and in page 13, both the features: allowing the user to add lines that are not crossing other lines or that should cross other lines are already available in Matsuura's invention, the matter is that the user chooses to select a suitable feature he needs. The same explanation is applied for claim 38.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this final action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687, (for formal communications; please mark "EXPEDITED
PROCEDURE")

Or:

(703) 305-7687 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

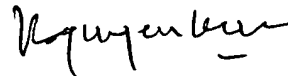
Hand-delivered responses should be brought to Crystal Park V, 2451 Crystal
Drive, Arlington, VA., Seventh Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, can be reached on (703) 308-3873. The fax phone number for this Group is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



THU V. NGUYEN
PRIMARY EXAMINER

January 29, 2004